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PRE-APPEAL BRIEF REQUEST FOR REVIEW

Docket Number (Optional): 021058-0257402

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Application Number	Filed
09/938,649	August 27, 2001

First Named Inventor: HELEN O'HARA

Art Unit	Examiner
1793	FELTON, Aileen Baker

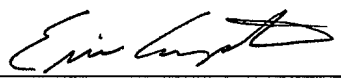
Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request.

This request is being filed with a notice of appeal.

The review is requested for the reason(s) stated on the attached sheet(s).
Note: No more than five (5) pages may be provided.

I am the

- [ ] applicant/inventor.
- [ ] assignee of record of the entire interest. See 37 CFR 3.71. Statement under 37 CFR 3.73(b) is enclosed. (Form PTO/SB/96)
- [X] attorney or agent of record. Registration number 54,806.
- [ ] attorney or agent acting under 37 CFR 1.34. Registration number if acting under 37 CFR 1.34 _____



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October 10, 2008

Date

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below*.

[X] *Total of 1 forms are submitted.

This collection of information is required by 35 U.S.C. 132. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11, 1.14 and 41.6. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Mail Stop AF, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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A. ATTACHMENT SHEETS TO PRE-APPEAL BRIEF REQUEST CONFERENCE

In response to the Final Office Action dated April 11, 2008 (hereafter "Office Action"), Appellant hereby requests that a panel of examiners formally review the legal and factual basis of the rejections in the above-identified application prior to the filing of an appeal brief. For at least the reasons provided below, Appellant asserts that the rejections below are improper because the Office Action fails to establish a *prima facie* case of anticipation and/or obviousness and upon errors in facts.

APPEALED REJECTION

Appellant is appealing the rejection of claims 60-78 under 35 U.S.C § 102(b) as allegedly being anticipated by, or in the alternative, under 35 U.S.C § 103(a) as allegedly being unpatentable over U.S. Patent No. 5,076,867 to McKenzie ("McKenzie").

ARGUMENTS FOR TRAVERSAL

A. McKenzie does not teach or suggest forming a gasser solution comprising a solution of an inorganic nitrite, an ammonium species and optionally an accelerator ... wherein the gasser solution is formed during or immediately before addition of the gasser solution to the emulsion explosive composition by mixing the inorganic nitrite, ammonium species and optionally the accelerator.

Claim 60 recites (a) forming a gasser solution comprising a solution of an inorganic nitrite, an ammonium species and optionally an accelerator; and (b) adding the gasser solution (which solution includes the inorganic nitrite, the ammonium species and optionally the accelerator) to an emulsion explosive composition having a discontinuous aqueous phase comprising inorganic oxygen releasing salts, a continuous water immiscible organic phase and a poly[alk(en)yl succinic anhydride based emulsifier. Further, claim 60 recites that the gasser solution is formed during or immediately before addition of the gasser solution to the emulsion explosive composition by mixing the inorganic nitrite, ammonium species and optionally the accelerator.

The Office Action asserts that "McKenzie discloses a water-in-oil emulsion that is formed by mixing nitrite, oxidizer salt, and thiourea and subsequently adding this

solution to the emulsifier and the fuel (see col. 4, lines 30-68)." [Office Action, pg. 2]. Appellant disagrees with this assertion for *at least* the reason that the Office Action has mischaracterized McKenzie. McKenzie does not teach or suggest the claimed gasser solution. For example, col. 4, lines 30-68 of McKenzie describes conventional ways in which emulsions may be gassed in order to sensitise them: (1) chemical gassing; and (2) the inclusion of physical gassing agents as hollow spheres or particles.

In relation to chemical gassing, it is evident that this involves adding sodium nitrite to an emulsion that already contains a gassing accelerator such as thiourea in the oxidiser phase. Indeed, column 4, lines 36-39 clearly states that:

> A sodium nitrite/thiourea combination begins producing gas bubbles immediately upon addition of the nitrite to the oxidizer solution containing the thiourea...
>
> [Emphasis added].

Thus, McKenzie does not disclose mixing nitrite, oxidiser salt and thiourea, and subsequently adding this solution to emulsifier and fuel. Rather, McKenzie discloses forming an emulsion comprising an oxidiser salt and fuel in which thiourea is contained within the oxidiser phase. This emulsion, containing thiourea, is then gassed when sodium nitrite is added.

McKenzie also discloses physical gassing using hollow spheres or particles (microballoons). [*See* col. 4, lines 46-51]. However, gassing in the claimed invention takes place by a chemical approach,[1] rather than by a physical gassing approach. Accordingly, claim 60 is not anticipated by McKenzie.

The Office Action also alleges that the order of steps is obvious. [*See* Office Action, pg. 3]. However, as discussed below, the order of steps as claimed, provides new and unexpected results over McKenzie. The mere fact that the reference can be modified does not render the resultant combination obvious unless the results would have been predictable to one of ordinary skill in the art. *KSR International Co. v. Teleflex Inc.*, 550 U.S. ___, ___, 82 USPQ2d 1385, 1396 (2007).

B. McKenzie does not teach or suggest adding the gasser solution to an emulsion explosive composition having a discontinuous aqueous phase

[1] Claim 60 recites "allowing the inorganic nitrite and the ammonium species of the gasser solution to **react** and form gas..." (emphasis added).

comprising inorganic oxygen releasing salts, a continuous water immiscible organic phase and a poly[alk(en)yl] succinic anhydride based emulsifier such that droplets of gasser composition are distributed throughout the emulsion explosive composition.

The Office Action also alleges that McKenzie teaches the use of PIBSA as surfactant, and alleges that this PIBSA is the same as the PIBSA referred to in step (b) of claim 60 of the present application. [*See* Office Action, pg. 2-3]. In the claimed invention, though, PIBSA is used as the surfactant/emulsifier for forming the emulsion explosive composition to which the gasser solution is then added. By contrast, in McKenzie, PIBSA is a surfactant that is added to ammonium nitrate (AN) or the fuel component of ammonium nitrate fuel oil (ANFO) rather than being the surfactant that is used to form the emulsion.

In fact, McKenzie is directed to solving the inherent instability of emulsion explosives based on emulsion and AN or ANFO prills. [*See* col. 1, line 49 – col. 2, line 8]. If the emulsion is weakened or becomes unstable, crystallisation or solidification of droplets results. [*See* col. 1, lines 56-61]. The addition of solid components, such as AN or ANFO prills, to emulsion explosives, tends to result in additional destabilization. [*See* col. 1, lines 61-66]. Thus, the aim of McKenzie is to enhance the stability of emulsion explosive compositions that contain AN or ANFO prills. [col. 2, lines 9-19]. This is achieved by addition of a surfactant <u>to the AN prills</u> or <u>dissolution of a surfactant in the liquid organic fuel of ANFO prills prior to addition of the liquid fuel to the prills</u> (in order to form ANFO prills – col. 3, lines 15-30). McKenzie states that "it has been found that use of a surfactant in this manner imparts greatly increased stability to the resulting emulsion and AN or ANFO prills mixture. By 'stability' is meant that the emulsion phase of the emulsion and AN or ANFO prills mixture remains a stable emulsion, i.e., does not appreciably break down or experience crystallization of the discontinuous oxidising salt phase over a given period of time." [Col. 1, lines 32-39]. In this regard, the surfactant disclosed in McKenzie is not the same as a surfactant used to form the emulsion itself. Indeed, while McKenzie does refer to the use of PIBSA surfactants, it is only in the context of addition to AN prills or dissolution of surfactant in the liquid organic fuel of ANFO prills prior to addition of the liquid fuel component to the AN prills. [*See* col. 3, lines 9-10].

McKenzie does teach formation of a water-in-oil emulsion using *a conventional emulsifier* (sometimes known as a surfactant). However, McKenzie is silent as to the use of PIBSA-based emulsifiers [*Cf.* col. 3, line 31 – col. 4, line 32]. Thus, when a PIBSA surfactant is discussed in McKenzie it is the surfactant that is added to the prills and not a surfactant/emulsifier that is used in the forming the water-in-oil emulsion.

C. McKenzie does not teach or suggest allowing the inorganic nitrite and the ammonium species of the gasser solution to react and form gas which is distributed as bubbles throughout the emulsion to form the gassed emulsion explosive composition ... wherein the reaction between the inorganic nitrite and the ammonium species occurs within droplets of the gasser solution such that there is substantially no chemical attack on the emulsifier.

In contrast to McKenzie, the claimed invention is directed to a particular problem associated with chemical gassing of emulsions that are formulated using PIBSA-based emulsifier. For example, one of the main problems associated with the use of nitrite gassing agents is that nitroso species are generated during the gassing reaction and these may react with functional moieties on the headgroup of the (PIBSA) emulsifier used to produce the emulsion. [*See* pg. 3, line 27 – pg. 4, line 10 of the Specification]. Reaction between the nitroso species and the emulsifier causes chemical changes in the emulsifier and this can have a damaging effect on the emulsifying capability of the emulsifier, subsequently leading to break down of the emulsion into discreet aqueous and oil phases [*See* pg. 3, line 27 – pg. 4, line 10]. The claimed invention addresses this problem by formulating a gassing agent comprising inorganic nitrate, ammonium species and optionally an accelerator. This gassing agent is formed before addition to the emulsion and the chemical gassing reaction that takes place occurs within droplets of the gasser solution within the emulsion such that there is substantially no chemical attack on the emulsifier. [*See* the last limitation of claim 60]. McKenzie, however, does not provide a solution to this problem.

The Office Action also alleges that "...the amounts of each component are indicated in col. 2 and 3. Col. 4, lines 44-50 also indicates that microballoons can be used in addition to the thiourea/nitrite combination." [Office Action, pg. 2]. This point is not relevant. The amounts disclosed at col. 3, lines 15-30 of McKenzie are the amounts

of surfactant added to the AN prills or to the fuel portion of ANFO prills. Col. 3, lines 31-61 discusses formation of a conventional emulsion explosive. However, the claims do not recite such compositions *per se*.

In addition, the Office Action asserts that "... it would have been obvious to one having ordinary skill in the art at the time the invention was made to vary the parameters of the emulsion such as pH, amounts and density to achieve a desired result." [Office Action, page 2]. However, McKenzie does not teach or suggest the claimed gasser solution, nor the claimed emulsifier. Thus, variation in parameters such as pH, amounts and density are merely incidental and do not address the above shortcomings, particularly when one considers the differences between McKenzie and the claimed invention as a whole. Indeed, a particular parameter must first be recognized as a result-effective variable, i.e., a variable which achieves a recognized result, before the determination of the optimum or workable ranges of said variable might be characterized as routine experimentation. *In re Antonie*, 559 F.2d 618, 195 USPQ 6 (CCPA 1977). The Office Action, however, has not made (and cannot make) such a showing.

CONCLUSION

Therefore, it is respectfully requested that the panel return a decision concurring with Appellant's position and eliminating the need to file an appeal brief because there are clear legal and/or factual deficiencies in the appealed rejections. Claims 60-78 are neither anticipated nor rendered obvious by McKenzie, and therefore, are allowable.

Respectfully submitted,

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